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GENERAL INFORMATION

Palliative medicine in surgery☆

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Abstract The concepts and background of palliative medicine, the patient-health team relationship and the right of the patients to receive palliative care, its application in surgery, the criterion defining the terminally ill, proportionate and disproportionate measures, where it is applied and what this consists of, drugs and procedures used, who should administrate them and for how long, the requirements for advance directives and avoidance of therapeutic obstinacy, were reviewed. It describes and reflects their ethical and legal bases. It describes the main changes to the law in México in 2009 and 2012. It concludes that palliative medicine is not against scientific and technological progress, but promotes its appropriate use with respect to the will and dignity of the patient. It should be applied by a multidisciplinary team, who accompany the patient throughout the progression of their condition, strengthening the doctor's and health team's relationship with the patients and their families.

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Medicina paliativa en cirugía

Resumen Se revisaron los antecedentes y los conceptos de medicina paliativa, la relación del equipo de salud con el enfermo y el derecho de los pacientes a recibirla, la aplicación en cirugía, el criterio que define al enfermo terminal, las medidas proporcionadas y desproporcionadas, donde se aplica y en qué consiste, los medicamentos y procedimientos utilizados, quién debe administrarla y durante cuánto tiempo, los requisitos para la voluntad anticipada y el cómo evitar la obstinación terapéutica. Se describe y reflexiona sobre sus bases éticas y jurídicas, se describen las principales modificaciones de la ley en México en 2009 y 2012. Se concluye que la medicina paliativa no está en contra de los avances científicos y tecnológicos, pero pugna por su uso adecuado con respeto a la voluntad y la dignidad del enfermo, así como la importancia para que esta la aplique un equipo multidisciplinario que acompaña al enfermo durante toda la evolución de su padecimiento, fortaleciendo la relación del médico y el equipo de salud con el paciente y su familia.

Introduction

Palliative describes palliating, derived from the Latin, ''*paliatus*'' meaning to reduce, attenuate, conceal, cover, disguise, forgive, or justify. In the context of health sciences, the first two connotations are the most appropriate, interpreted as mitigate, diminish, alleviate or make bearable any physical or mental pain. The word palliative is often erroneously interpreted and is considered to mean ''doing nothing''. This could not be further from the truth, since doctors and health teams can do a great deal to help patients, despite halting procedures and drug prescriptions that are of no benefit to them. Palliative medicine is therefore the set of procedures and drugs used to control a patient's pain and other distressing symptoms, to prevent their suffering to the greatest extent possible and thus improve their quality of life, respecting their wishes and enabling them to live with dignity.[1]

Although those terms are not used, references regarding palliative medicine are found in ancient medicine practiced in China, Egypt, Mesopotamia and especially Greece, as reflected in different writings such as Ebers and Smith's papyri in Egypt, the Hippocratic Oath of the fifth century BC and Maimonides' Prayer of a Physician in the Middle Ages. Developments of the more recent past include the hospices or continuous care units established by Alfred Worcester in 1935, whose philosophy is expressed as ''the care of the aged, dying and the dead'', and end-of-life management in London's St Christopher's Hospice, where Dame Cicely Saunders and her team, demonstrated the efficacy and efficiency of the integral treatment of terminally ill patients.[2,3]

In order to better interpret and use palliative medicine, thought should be given in answering the following questions: Which patients should received palliative care? What are ordinary and what are extraordinary means? Where should they apply and what do they comprise? Which drugs and procedures should be used? Who should provide the palliative care and for how long? What is an advance directive? What does therapeutic obstinacy comprise? What are the ethical and legal bases of palliative medicine? All of these are questions to which there are no definitive, universally accepted answers, and they have changed over time due to spectacular scientific and technological advances such as extensive oncological surgery with radiotherapy or adjuvant chemotherapy that enable a cure or at least improve the condition of patients for whom up to a few years ago little could be done. The answers to these questions can also vary according to the context in which the patients are treated, the material and human resources available and of course the philosophy and standards of the health institution, the ethics and bioethics of the doctor, of the health team, of the patient and their family, respecting the patient's autonomy and dignity at all times.[4,5]

Patients who should receive palliative medicine

It is generally considered that patients with advanced malignant neoplasms, in a terminal condition due to tumour growth or spread to other organs and/or metastasis, for whom surgery, radiotherapy or chemotherapy have not provided a good outcome, are the only people who should be managed using palliative medicine. However the indications for palliative treatment are more extensive. Patients who have undergone surgery with serious complications that have resulted in irreversible organ and functional impairment are also candidates for palliative care. As are adult or elderly patients with chronic, degenerative disease, for whom surgical intervention or simply the progression of their disease has incurred serious complications resistant and/or irreversible to treatment, in these cases, limiting treatment to procedures and drugs to prevent suffering is indicated to prevent suffering and improve comfort and quality of life. Candidates also include young people and even children with acute disorders, who have often undergone one or more operations, with serious complications that have irreversibly compromised their body's integrity and functioning

despite the appropriate treatment. For these patients, the prognostic indices (Apache I, Glasgow Scale and others) evaluate gravity of disease and possibilities of survival. Traumatised patients regardless of their age, with multiple, serious lesions resulting in complications and organ and functional failure, whose response to treatment is poor or null, will also benefit from palliative care.[6,7]

The term ''terminally ill'' can appear pejorative, derogatory and suggest a false idea of abandonment, it is generally used arbitrarily for patients with a life expectancy of no more than six months, such as patients with advanced cancer, whose natural disease progression indicates that they will die within a short period of time. Although as stated earlier, these can be patients with acute or chronic disease, with complications that have caused major organ and functional impairment, and whose chances of recovery are few or null. A lot can be done for these patients, without attempting to use everything that science and technology provide. The most appropriate care plan should be implemented for each individual patient, taking their organic and functional conditions into consideration, and their possibilities of recovery. This has given rise to the concepts of ordinary or proportionate means as against extraordinary or disproportionate means.[7,8]

Ordinary and extraordinary means

Ordinary means, proportionate to the needs of the patient comprise support and assistance, communication, hydration and feeding, position changes, toileting and wound treatment, and procedures and medication to mitigate pain or ease distressing symptoms such as nausea, vomiting, dizziness and insomnia in order to lessen suffering, so that the they can be made more comfortable and achieve better quality of life. Extraordinary or means disproportionate to the patient's condition, although useful in many patients for a limited time, are not indicated for patients whose prognosis is terminal in the short or mid term due to advanced disease state, serious complications or lack of response to treatment. These include respiratory support, invasive diagnostic studies, surgery, antibiotics, parenteral nutrition or vasoactive drugs. The same could be said of chemotherapy and radiotherapy, with even more reason since these cause distress and undesirable side effects.[7,9]

Where palliative care is given and what it comprises

Palliative care can be provided in settings other than specialist institutions, hospitals and hospices, such as general hospital rooms and wards, intermediate care units and even in the patient's home. It is important to have everything that is required to hand, and in particular a human team willing and available to assist the patient. The patient's environment should be comfortable, of appropriate temperature and humidity with no excessive noise. A degree of privacy should be provided to enable the patient to communicate with the health team and their family, and to rest and sleep when they need.[3,8]

Palliative medicine comprises a series of simple means, which cause little inconvenience, do not increase care costs and can be implemented in any location. Of most importance are support and assistance, communication and listening to the patient who will often wish to talk about subjects that they might be reluctant to discuss with their family. Listening and talking with the patient can be cathartic and help them cope with their emotional burden, stress and anxiety. General means to ensure that the patient is more comfortable and to reduce their distress, such as washing, skin care, active and passive mobilisation, exercises appropriate for their condition, massages, breathing exercises, wound treatment, stoma care, hydration and feeding – preferably orally, providing the foods they desire and can tolerate. In special cases, with the patient's consent, tube or intravenous feeding can be given, provided the risks do not outweigh the benefits.[9,10]

Medication and procedures

Informed consent is a requirement for administering palliative medicine. This is understood as providing the patient full and clear information about all aspects of their disease, the diagnostic and therapeutic procedures to be undertaken and their advantages and disadvantages, honestly weighing up the cost-benefits if these are used or stopped, and suggesting other possible alternatives. For this to be truly informed consent it is important to check that the patient has understood everything that has been explained to them, so that they can reflect and freely make the decision that suits them best.

Some drugs and procedures are essential for treating the symptoms that affect good quality of life, such as analgesics and procedures to mitigate pain, and treatment for nausea, vomiting and insomnia. Occasionally it will be necessary to use procedures to tackle very distressing conditions: catheterisation for urinary retention, nasogastric tube for gastric dilatation, enemas and the removal of impacted faeces, evacuation of pleural effusion or ascites if they affect appropriate ventilation. In some patients surgery can be palliative: solving intestinal occlusion, removing a bleeding organ or debriding an abscess. An essential aspect of palliative care is the management of psychological alterations, here the intervention of the treating practitioner and psychologist is of vital importance. Major alterations require the participation of a psychiatrist and the use of anti-anxiety psychiatric drugs and/or antidepressants.[10,11]

The intensity of pain should be evaluated in order to treat it correctly. To this end it is useful to use analogue scales according to the circumstances of each patient and administering analgesics with a gradual plan in stages has proven to be useful in cancer patients: Stage I for patients with mild to moderate pain use NSAIDs that should be rotated every 15 days, Stage II for persistent, moderate to severe pain from the start, use NSAIDs with weak opiates such as codeine or tramadol, corticosteroids can be added and also rotated every 15 days, and Stage III for persistent, severe pain from the start, use NSAIs plus a powerful opiate such as morphine or methadone. In combination, administer proton pump inhibitors, metoclopramide and other antiemetics to prevent or treat side effects, and combined with anti-anxiety and anticonvulsant drugs can improve results in some patients. Fentanyl or buprenorphine patches are

useful in the management of these patients at home. There is reluctance to use opiates in many of our country's health institutions for fear of creating an addiction. In this regard, the severity of the disease and the short life expectancy of these patients will not result in addiction to these drugs.[7,10]

When indicated, the use of opiates and sedatives that affect the central nervous system is acceptable in order to ease pain and prevent suffering, despite the risk of accelerating the final outcome. It is important to assess the use of drugs that inhibit consciousness and in turn suppress the possibility for the patient to communicate with their doctor and other people, which in some cases is vitally important to the patient in order to re-establish relationships with certain individuals, parents, children or siblings with whom they might have severed relations. It is also necessary to preserve consciousness when reflection and judgement is required to take social and legal decisions. Regional blocks and epidurals, alcohol or phenol infiltration of the ganglion in the course of a surgical examination, guided by ultrasound or CAT, are good alternatives. Pain surgery such as posterior cordotomy is limited to special cases. Frontal lobotomy which suppresses pain but also suppresses connection with others, emotions and judgement and therefore cannot be considered to enhance quality of life, is not indicated.[7,10,12]

Who should administer treatment and for how long

Although a doctor should always be in charge and responsible for the therapeutic indications as well as establishing communication with the patient and their family, choosing the best alternatives with them in order to improve the patient's condition and quality of life, ideally it should be a multidisciplinary health team who administers palliative care; this is the ethos of the hospice. This team can comprise the treating physician or physicians, nurses, psychologists, social workers, medical and nursing students, family members, friends and ministers of religion, who will willingly work in coordination in the different abovementioned settings: hospices, hospital rooms and wards, care homes and the patient's own home.[12,13]

The cancer patient can enter a hospice where they will only receive conservative treatment with ordinary palliative means, administrated by a multidisciplinary team that ideally should include the participation of family members and friends. On admission to the hospice all oncological treatment is halted: radiotherapy, chemotherapy and any surgical intervention. The advantage of this management is that the patient can socialise with other patients in a similar situation, with hospice staff, doctors, nurses, psychologists and social workers, and can receive visits from family members, friends, and ministers of their religion, if they so wish. Of course the patient can change their mind, request to be discharged to continue with their palliative care at home, or return to their prior oncological treatment.[14,15]

Palliative treatment should be used as long as necessary, while the patient is suffering pain and other distressing symptoms: The use of opiate analgesics and central nervous system sedatives can cause an induced state of unconsciousness and coma, at this time extraordinary means such as endotracheal intubation, assisted respiration and cardiopulmonary resuscitation should not be applied.[14,15]

Advance directive

Occasionally patients will have expressed their wishes in advance, when in full possession of their mental faculties. It is important to ensure that the patient is not in a state of depression when they express their wishes and that they are in an appropriate condition to reflect and make decisions that can be written down in a document and signed before witnesses or a notary. This document is termed ''advance directive or living will'' and sets out specific provisions: not to be admitted to an intensive care unit, not to receive disproportionate means, oncological treatment, blood transfusions, undergo surgery or cardiopulmonary resuscitation. The patient can also express their wish to donate organs for transplantation.

Legislative amendments have already set the legal framework for the appropriate use of the end-of-life directive. The patient, having considered and envisioned the progression of their disease will have freely expressed their wishes as to how their condition should be managed. An advance directive before a notary is not always practicable, therefore it is enough for it to be signed before two witnesses and placed so that it can be seen by the healthcare team, paramedic staff and family members. This greatly helps towards ensuring that the patient's will is respected.[16–18]

Therapeutic obstinacy

Therapeutic obstinacy, i.e. insistence on the use of extraordinary means for terminally-ill patients, whose clinical condition and prognostic indices suggest that they will die very shortly, has been termed ''therapeutic cruelty'' – a very pejorative term. The terms ''therapeutic obstinacy'' and ''dysthanasia'' are preferred to describe a failure to appropriately manage a natural or expected death. ''Futile'' means which do not benefit the patient in any way, and can be distressing, painful or dangerous, should not be used. Avoiding therapeutic obstinacy is also known as ''adysthanasia''. The integral management of the patient to ensure their comfort, that they are free from pain and other distressing symptoms, and in the place of their choosing, surrounded by people known to them, family members and friends, is known as ''orthonasia''. This comprises the abovementioned palliative means applied in the most appropriate environment, chosen by the patient, their family or a responsible person. This can be the hospice, hospital ward or the patient's home.[19–22]

Ethical and legal bases

Care of the patient who requires palliative care should be based on the ethical behaviour of the healthcare team, respecting the dignity of the human person and the principles of bioethics: beneficence, non maleficence, autonomy and justice, avoiding means that cause the patient greater harm than benefit, respecting the patient's autonomy in decision-making, with regard to refusing disproportionate means, and stopping palliative care and resuming their

former treatment, such as oncological treatment for cancer patients. The terminally-ill patient is free to choose how to live the time left to them, choose the place and manner of their dying, without pain or other symptoms that affect good quality of life. They have the right to a dignified death, in hospital or at home, surrounded by their loved ones.[23,24]

The law in Mexico was amended in 2009 and 2012. This started with an initiative of the then President of the Republic to amend the General Health Act with regard to the integral treatment of pain and palliative medicine. The initiative was sent to the *Legislatura de la Nación* (Mexico State Legislature), given general acceptance and published in the *Diario Oficial de la Federación* (Official Federation Bulletin) on 22 December 2008. Outstanding amongst the amendments to the Act is section II of article 27, in which palliative means are added to preventive, curative and rehabilitation means. However, more important still was the creation of article 166 *bis*, published in the *Diario Oficial de la Federación* on 5 January 2009. The *Ley de la Voluntad Anticipada* (Advance Directive Act) was published in the *Diario Oficial de la Federación* two days afterwards.[25,26]

We do not attempt to give a full analysis of article 166 *bis*, but we should emphasise the most important concepts. Article *166 bis 1* defines extraordinary procedures. Article *166 bis 3* defines and refers to the rights of the terminally-ill patient. Article *166 bis 4* covers the advance directive. Article *166 bis 10*, refers to the treatment of family members, who should respect the will of the patient. Article *166 bis 11*, states that in the event of emergencies if the patient is unconscious, in the absence of family members or responsible person, decision-making falls to the treating physician and the Bioethics Committee, this is complemented by article *166 bis 14*, which refers to the faculties, rights and obligations of the physician and the healthcare team. Article *166 bis 16* refers to the administration of opiates and sedatives, even though the patient's alertness will decrease and death might be accelerated, when the intention is to ease pain, prevent suffering and not to shorten life. Article *166 bis 17* states that extraordinary means should not be used in terminal patients. Article *166 bis 19*, states that medical staff and the healthcare team must provide support and ordinary support means. Article *166 bis 20* states that treatment decisions should not be left to the healthcare team alone, and *166 bis 21* forbids euthanasia and assisted suicide.[26,27]

Interpretation of the Act, in order to implement it correctly and appropriately to the benefit of the patient at all times, is not always easy, as indicated in a study for the regulation of palliative medicine and assisted death, involving two magistrates, the Director of a prestigious health institute and an anaesthetist. The Act, therefore, is implemented and interpreted from varying points of view. Amendments to the Act made in 2009 and minor amendments made in 2012 that regulate integral pain management and palliative care, are included in NOM-011-SAA3-2014. All of this is very satisfactory; however, there remains the unresolved issue of integral pain management in chronically sick patients. These patients may have a life expectancy greater than six months but suffer severe, intense pain that is difficult to treat.[26]

Conclusions

To the spectacular scientific and technological advances that have undoubtedly saved many lives and cured many diseases, we can now add palliative medicine, which rather than acting against these advances, is struggling to ensure that they are used appropriately and humanely and that respect for the wishes and autonomy of the patient prevails. The palliative medicine team is involved from the outset and accompanies the patient through the progression of their disease and throughout the diagnostic and therapeutic process, during which time the doctor and healthcare team assess the outcomes, response and reactions of the patient. The relationship between the physician and the patient and their family is strengthened throughout this time. Ethical aspects run parallel to legal regulation, which is now fortunately enshrined in the amendments to the *Ley General de Salud* of 2009 and 2012.

Ethical disclosures

Protection of humans and animal subjects. The authors declare that no experiments were performed on humans or animals for this study.

Confidentiality of data. The authors declare that they have followed the protocols of their work center on the publication of patient data.

Right to privacy and informed consent. The authors declare that no patient data appear in this article.

Conflict of interests

The authors have no conflict of interests to declare.

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